

REMARKS

By the present paper, claims 2 - 5, 7, 9 - 13, 16, and 17 are cancelled without prejudice or disclaimer of subject matter therein, claims 1, 6, 8, 14, 15, and 18 are amended, and new claims 19 and 20 are presented. Claims 1, 6, 8, 14, 15, and 18 - 20 are in the Application.

Entry of the claim amendments, entry of the new claims, and reconsideration of the Application in view of the follow remarks are respectfully requested.

The Claim Amendments:

Claim 1 is amended to recite the composition of the starch matrix of the candy and the important characteristics of these components. Support for the amendments can be found in the specification at, for example, 9:3-10¹, 10:11-15, and 11:1-3.

Claim 6 is amended to correct its dependency required by cancellation of claim 2 and to define the invention with even greater particularity by deleting allegedly indefinite language.

1

References to the specification and prior art are given as x:y, where x is the page number and y is the line number(s), or if appropriate column and line number, respectively.

Claim 8 is amended to correct its dependency required by cancellation of claim 2 and to render it with even greater particularity by cancelling allegedly indefinite language.

Claim 14 is amended to correct its dependency required cancellation of claim 2 and to make it consistent with the claim from which it depends.

Claim 15 is amended to correct its dependency required by cancellation of claim 2 and to render it with even greater particularity by cancelling allegedly indefinite language.

Claim 16 is amended to correct its dependency required by cancellation of claim 2.

The New Claims:

New claims 19 and 20 limit the retrogradation-inhibiting material. Support for the new claims can be found, for example, in claims 8 and 16 as filed.

Claim Rejections Under 35 U.S.C. § 102, ¶1:

Claims 1 - 18 were rejected under 35 U.S.C. § 102, first paragraph, as allegedly non-enabled. Applicants respectfully traverse.

Concerning claim 1, Applicants point to, for example, the working examples and the methods section of the Application as disclosing how to make the product having the described properties. Nevertheless, Applicants have amended claim 1 to eliminate the allegedly unsupported language.

Concerning claims 3 - 12, claims 3, 4, 5, 7, 9, 10, 11, and 12 have been cancelled, mooted the rejection of these claims.

Concerning claims 6 and 8, these claims recite only compositional limitations described in the specification. Applicants respectfully submit that at least the methods section and working examples of the specification, together with knowledge in the art evidenced at least by WO 03/035026 and WO 03/035044, enable the person skilled in the art to make a candy having the performance characteristics of Applicants' inventive candy.

Without agreeing to the grounds of the rejection, Applicants respectfully point-out that claims 6 and 8 include only compositional, not property, limitations and accordingly, respectfully submit that the rejection is improper and should be withdrawn.

Claim Rejections Under 35 U.S.C. § 101 and 35 U.S.C. § 102, ¶ 2:

35 U.S.C. § 101:

Applicants' claims are drawn to a comestible composition. Applicants' inventive starch matrices are compositions of matter and individual servings are manufactures. Applicants claims are drawn to something under the sun made by man and are drawn to patentable subject matter. Accordingly, Applicants respectfully submit that the rejection is improper and should be withdrawn.

35 U.S.C. § 102, paragraph second:

Claims 1 -18 were rejected under 35 U.S.C. § 102, ¶2, because terms such as “rubbery elastic texture”, “modulus of elasticity” and “relaxation tension” are allegedly indefinite. Applicants respectfully traverse.

Applicants’ inventive candies comprise materials well-known to be polymers (linear and branched polymers having repeating α -D-glucose units), albeit comestible ones. In Applicants’ inventive products, the naturally occurring polymers, suitable modified, form a viscoelastic network when combined with water and other materials. They can be analogized to thermoplastic elastomers containing oils, extenders, and lubricants. The person skilled in the art knows well how to measure the viscoelastic properties of polymeric materials using, for example, tensile testers, rotational and oscillating viscometers, and rheogoniometers. *See, e.g.,* John J. Aklonis et al., Introduction to Polymer Viscoelasticity, John Wiley & Sons, Inc. (1972). Measurement of viscoelastic properties is well known. An application for a United States patent need not expressly teach that which is well-known in the art.

In any event, claims 2 - 5, 7, 9 -13, 16, and 17 have been cancelled, mooted the rejection of these claims.

Concerning claims 6 and 8, these claims do not include the allegedly indefinite language.

Concerning claim 14, the person skilled in the art would understand well what a network of homocrystallites, heterocrystallites, or a combination of these, is. The person skilled in the art would be reasonably aware of the meets and bounds of the claims. Applicants' claims need do no more. Accordingly, Applicants respectfully submit that the rejection is improper and should be withdrawn.

Concerning claim 15, this claim does not include any of the allegedly indefinite language. Applicants respectfully submit that the rejection is improper and should be withdrawn.

Concerning claim 18, this claim recites a process limitation described in the specification, and informed by the prior art (WO 03/035026 and WO 03/035044).

Claim Rejections Under 35 U.S.C. § 102:

Claims 1 - 13 and 16 - 18 were rejected as allegedly anticipated by Kumaresh C. Chakraborty et al., United States Patent 5,262,191 (Chakraborty et al.), as informed by 1 Handbook of Food Science, Technology, and Engineering, p.3-8 (Hui, ed.) (Hui). Applicants respectfully traverse.

Chakraborty et al. discloses a starch gel candy based on a blend of two starches: a low-amylose starch and a high-amylose starch. The low-amylose starch

is a thin-boiled or oxidized common starch, both made in a conventional manner, having a fluidity of 50 mL to 100 mL. Chakraborty et al. at 4:13-61.

The low-amylose starch can come from sources that include potato and tapioca. Citing to *Hui*, the Office asserts that the skilled artisan knows that the DPn of (natural) amylose from potato or tapioca is 1,000 to 6,000.

These DPn numbers refer to native starch. The low-amylose starch of Chakraborty et al. is processed and, as the Office acknowledges, the DPn is reduced by this processing. Office Action at page 9, line 9. The processed, low-amylose starch of Chakraborty et al. has an alkaline fluidity of 50 mL to 100 mL.

Alkaline fluidity is indicative of DPn. As disclosed in the attached table (Table IV) from Starch: Chemistry and Technology, 2nd ed. (Roy L. Whistler et al., eds., CRC Press 1984), the amylose fraction of a modified starch having a fluidity of 50 mL would be <470, and the DPn of the amylopectin fraction would be < 565. Applicants claims require that their low-amylose starch have DPn > 750 (> 1000 in claim 14).

Chakraborty et al does not teach all of the elements of Applicants' claims arranged as required by the claims. Applicants respectfully submit that the rejection is improper and should be withdrawn.

Claim Rejections Under 35 U.S.C. § 103:

Claim 14 was rejected as allegedly obvious over Chakraborty et al. in view of Fennema, Food Chemistry, 3rd ed. (Fennema). Applicants respectfully traverse.

Contrary to the Office's assertion and as discussed *supra*, Chakraborty et al. does not teach or suggest a low-amylose starch having DPn > 750 and, especially > 1000 as recited in claim 14.

The Office cites Fennema for the proposition that the skilled artisan knows that starches can be modified and that modification of the starch affects how it performs in a food product. Accepting that proposition as true, Applicants respectfully point-out that this "fact" is nothing more than an invitation to experiment. The Office has not offered any reasoned statement as to how Fennema would have motivated the skilled artisan to do what Applicants were the first to do.

Concerning high-amylose starch ('NS' of Applicants' claims), The Office asserts that Chakraborty et al. teaches use of a high-amylose starch having DPn < 200 and that it would have been obvious to reduce this still further using the process of Chakraborty et al. to DPn < 50. Other than the invitation to experiment extended by Fennema, the Office has not provided any explanation why the skilled artisan would be motivated to make this specific change and why the skilled artisan would expect that such modified high-amylose starch would provide a superior gummy candy when combined with a low-amylose starch having DPn > 1000, as required by claim 14. Applicants respectfully submit that the motivation is only found in Applicants' own disclosure.

For at least the forgoing reasons, Applicants respectfully submit that the rejection is improper and should be withdrawn.

Conclusion:

Applicants respectfully submit that, based on the foregoing amendments and remarks, the claims are now in condition for allowance, which allowance is earnestly solicited. If, in the opinion of the Examiner, a telephone conference would advance prosecution of the Application, the Examiner is invited to telephone the undersigned attorneys.

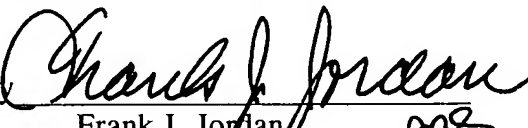
REQUEST FOR EXTENSION OF TIME

Applicants respectfully request a one-month extension of time for responding to the Office Action. The fee of \$130.00 for the extension is provided for in the charge authorization presented in the PTO Form 2038, Credit Card Payment form, provided herewith.

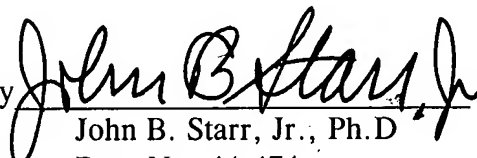
If there is any discrepancy between the fee(s) due and the fee payment authorized in the Credit Card Payment Form PTO-2038 or the Form PTO-2038 is missing or fee payment via the Form PTO-2038 cannot be processed, the USPTO is hereby authorized to charge any fee(s) or fee(s) deficiency or credit any excess payment to Deposit Account No. 10-1250.

Respectfully submitted,

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FJJ/JBS/cj
Encl. Starch: Chemistry and Technology, Table IV

STARCH:

Chemistry and Technology

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Table IV
Properties of Fractions from Acid-Modified Corn Starches (21)

Parent starch fluidity	Amylose fraction					Amylopectin fraction				
	\overline{DP}_n	Ferricyanide number	Alkali number	Iodine affinity	Yield, wt. % of parent starch	\overline{DP}_n	Ferricyanide number	Alkali number	Intrinsic viscosity	
Unmodified	480	1.43	19.7	19.2	21.0	1450	0.46	4.8	1.25	
10	—	—	—	11.9	34.9	920	0.59	7.05	1.07	
20	525	1.59	20.4	16.6	37.0	625	0.85	9.7	0.70	
40	470	1.80	22.8	17.1	28.8	565	0.91	10.8	0.65	
60	425	2.01	27.9	18.0	25.2	525	1.00	11.1	0.58	
80	245	3.72	43.0	18.1	23.1	260	3.31	25.9	0.26	
90	190	6.90	—	16.3	12.0	210	4.27	27.6	0.29	